



## 938408 U.Evap."TADIRAN"MTB60HR-R410-Mpres-5TFC-







## Caracteristicas:

- \* Facíl Operación y Mantenimiento
- \* Refrigerante Ecológico R410
- \* Control Alámbrico (Cable 5,5 m)
- \* Posibilidad de Retorno de aire por la parte posterior o inferior de la unidad
- \* Compresores de Alta Eficiencia Scroll
- \* Protección Térmica Externa
- \* Comando en 220 V
- \* Presostatos de Baja y Alta Presión
- \* Protector de Secuencia de Fase (PCB)
- \* Control de Descongelamiento en la unidad exterior
- \* Bajo Nivel de Ruido

Toda la informacion contenida en este documento esta sujeta a cambios sin previo aviso.





Co	njun	to Central	Bajo Perf	il de Medi	a Presión	- Frío Calc	r Bomba	(R410a)		
				Modelo	s 'MTB'	ı				
MODELOS	2	MTB-30HRA	MOU-30HRA	MTB-36HRS	MOU-36HRS	MTB-48HRS	MOU-48HRS	MTB-60HRS	MOU-60HRS	
MODELO	3	U. Interior	U. Exterior	U. Interior	U. Exterior	U. Interior	U. Exterior	U. Interior	U. Exterior	
Capacidad Frío	Btu/h	28.	500	36.	000	47.	600	58.	400	
Сарасіцаці гі іо	Kcal/h	7.125		9.0	000	11.900		14.600		
Capacidad Calor	Btu/h	29.700		39.	600	53.000		60.000		
apacidad Calor Kcal/h		7.425		9.900		13.250		15.000		
Alimentación Eléctrica	V/P/Hz	220/1/50	220/1/50	220/1/50	380/3/50	220/1/50	380/3/50	220/1/50	380/3/50	
Consumo en Frío	W	27	90	40	50	52	40	60	90	
Consumo en Calor	W	2450		3400		4400		5460		
Compresor	Tipo	Rotativo		Scroll		Scroll		Scroll		
RLA Compresor	Α		11,65		6,58		8,22		9,77	
Motores	Tipo	YSK74-4P	YDK100-6D	YSK140-4P	YDK190-6D	YSK170-4P	YDK65-6D	YSK180-4P	YDK65-6D	
Cantidad		1	1	1	1	1	2	1	2	
Capacitores	μF / Vac	3,5 / 450	5 / 450	10 / 450	10 / 450	10 / 450	(3,5 /450) x2	10 / 450	(3,5 /450) x2	
Caudal de Aire Máximo	m3 / min	23,3	53,3	38	91,7	50	103,3	52	108,3	
Presión Estática	Pa	70		80		100		100		
Nivel Sonoro	dB(A)	41	48	48	56	48	58	49	57	
Ø Líquido - Ø Gas	Pulg.	3/8 -	- 5/8	3/8 - 3/4		3/8 - 3/4		3/8 - 3/4		
Máx. Long / Máx. Dif.	m	25 / 15		30 / 20		50 / 25		50 / 25		
Temp. Lte. Operación	°C	45º (Frío) /	-7º (Calor)	45º (Frío) /	-7º (Calor)	45º (Frío) /	-7º (Calor)	45º (Frío) /	-7º (Calor)	
Dimensiones (W x H x D)	mm	1140 x 270 x 710	990 x 965 x 340	1140 x 270 x 710	990 x 965 x 340	1200 x 300 x 800	900 x 1167 x 330	1200 x 300 x 800	900 x 1167 x 330	
Peso	Kg	27	49	36	85	45	94	47	99	
Carga R410a	Kg		1,8		2,4		3,25		3,2	
Control Alambrico	Tipo	KJR-10B/	DP (T)-E	KJR-10B/DP (T)-E		KJR-10B	/DP (T)-E	KJR-10B/DP (T)-E		

## Dimensiones U. Evaporadora (R410a) Baja Silueta – Media Presión Modelos: 'MTB'

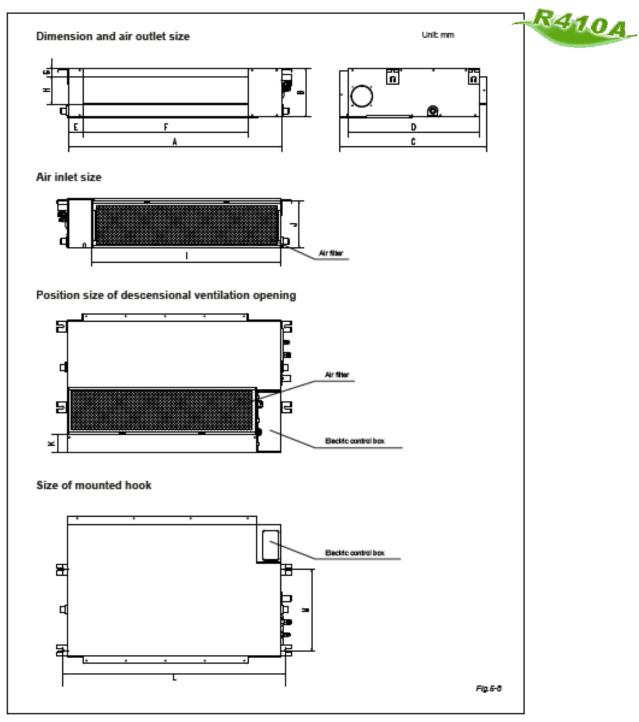
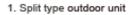
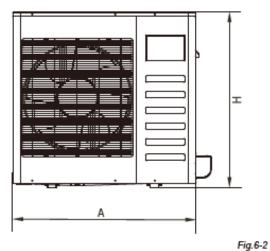
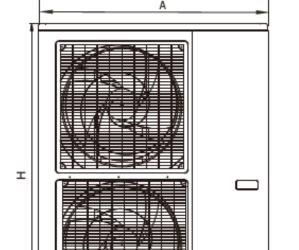


Table.5-2													mm
Outline dimension				air outlet opening size				air return opening size			Size of mounted lug		
	Α	В	С	D	Е	F	G	Н	Ι	L	K	L	М
12	700	210	635	570	65	493	35	119	595	200	80	740	350
12~18	920	210	635	570	65	713	35	119	815	200	80	960	350
24	920	270	635	570	65	713	35	179	815	260	20	960	350
36 (small model)	920	270	635	570	65	713	35	179	815	260	20	1180	490
30~36	1140	270	775	710	65	933	35	179	1035	260	45	1240	500
42~60	1200	300	865	800	80	968	40	204	1094	288	45	1240	500

## Dimensiones U. Exterior (R410a) Modelos: 'MOU'







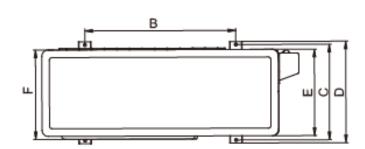


Fig.6-3

MODEL	Α	В	С	D	Е	F	Н	REMARK
30	990	624	366	396	340	345	965	Fig.6-2
	900	590	333	355	302	315	860	Fig.6-2
36~42	990	624	366	396	340	345	965	Fig.6-2
30~42	938	634	404	448	368	392	1389	Fig.6-3
45~51	990	624	366	396	340	345	965	Fig.6-2
	938	634	404	448	368	392	1389	Fig.6-3
	900	590	378	400	330	350	1170	Fig.6-3
60	900	590	378	400	330	350	1170	Fig.6-3
	938	634	404	448	368	392	1369	Fig.6-3



Middle Static Pressure Duct Type

Thank you very much for purchasing our air conditioner, Before using your air conditioner, please read this manual carefully and keep it for future reference.

Change the fan motor static pressure corresponding to external

condensate and internal duct underlayer shall be added to reduce

installation manual

1) The branching pipe must be installed horizontally, error angle

Horizontal surface

REFRIGERANT PIPE CONNECTION

Cut a pipe with a pipe cutter. (Refer to Fig.9-1)

Insert a flare nut into a pipe and flare the pipe.

· Put the connecting pipes at the proper position,

wrench the nuts with hands then fasten it with

two wrenches simultaneously. (Refer to Fig.9-2)

CAUTION

Too large torque will harm the bellmouthing and too small will

cause leakage. Please determine the torque according to

8.3/0.327in 8.7/0.343in

12.0/0.472in 12.4/0.488in

15.4/0.606in 15.80.622in

installation manual

installation manual

installation manual

16 kgf.cm)

<del>\_\_\_\_\_\_</del>

-shaped branching pipe

A direction view

9.1 Expel The Air

1 Flaring

of it should not large than 10°. Otherwise, malfunction will be

1. Do not put the connecting duct weight on the indoor unit.

the noise for special requirement.

duct static pressure.

5.2.2 New concrete bricks 3. Air inlet and air outlet duct should be apart far enough to avoid air passage short-circuit Recommended duct connection (Blade shape insertion) (Slide insertion) 5.2.3 For Original concrete bricks Use embedding screw bold, crock and stick harness. (Refer to Fig.5-4) Steel bar ☐ Embedding screw bolt (Pipe hanging and embedding screw bolt) 5. Please refer to the following static pressure to install 5.2.4 Steel roof beam structure Install and use directly the supporting angle steel. (Refer to Fig.5-5)  $\,$ 

2 Overhanging the indoor unit (1) Overhang the indoor unit onto the hanging screw bolts with (2) Position the indoor unit in a flat level by using the level indicator, unless it may cause leakage. 2. When connecting duct, use inflammable canvas tie-in to prevent Shockproof cushion 3. Insulation foam should be wrapped outside the duct to avoid Washer /

Hanging screw bolt 5.3 Duct and accessories installation 1. Install the filter(optional) according to air inlet size. 2. Install the canvas tie-in between the body and duct.

6.2 Figure of body size **6.1 Installation Place** 1. Split type outdoor unit ■ The outdoor unit should be installed in the location that meets the following requiements: There is enough room for installation and maintenance. • The air outlet and the air inlet are not impeded, and can not be reached by strong wind. It must be a dry and well ventilating place.

6. OUTDOOR UNIT INSTALLATION • The support is flat and horizontal and can stand the weight of the outdoor unit. And will no additional noise or Your neighborhood will not feel uncomfortable with the noise or expelled air. It is easy to install the connecting pipes or cables. Determine the air outlet direction where the discharged air is not blocked. There is no danger of fire due to leakage of inflammable The piping length between the outdoor unit and the indoor unit may not exceed the allowable piping length. • In the case that the installation place is exposed to strong wind such as a seaside, make sure the fan operating properly by putting the unit lengthwise along the wall or using a dust shield. (Refer to Fig. 6-1) • If possible, do not install the unit where it is exposed to direct sunlight. If necessary, install a blind that does not interfere with the • During the heating mode, the water drained off the outdoor unit ,The condensate should be well drained away by the drain hole to an appropriate place, so as not to interfere other people • Select the position where it will not be subject to snow drifts, accumulation of leaves or other seasonal debris. If unavoidable, please cover it with a shelter. Locate the outdoor unit as close to the indoor unit as If possible, please remove the obstacles nearby to prevent the performance from being impeded by too little of air The minimum distance between the outdoor unit and obstacles described in the installation chart does not mean that the same is applicable to the situation of an airtight room. Leave open two of the three directions (M,N,P) (Refer to Fig.6-5) NOTE

8.4 Vacuum with vacuum pump 1) Use the vacuum pump which vacuum level lower than -0.1MPa and the air discharge capacity above 40L/min. 2) The outdoor unit is not necessary to vacuum, don't open the outdoor unit gas and liquid pipe shut-off valves. 3) Make sure the vacuum pump could result as -0.1MPa or below after 2 hrs or above operation. If the pump operated 3 hrs or above could not achieve to -0.1MPa or below, please check whether water mix or gas leak inside of the pipe. Connect with vacuum pump Perform the pump (last for 2 hrs or above) . Close-off the valve of vacuum meter. When get the vacuum level 2. Cut off the connection -0.1MPa, the pump should keep running for 20-60 mins between pressure meter and vacuum pump. 3. Close the vacuum Shut down the vaccun pump Place the vaccum state unused (1 hrs or above)

All the figures in this manual are for explanation purpose only.

They may be slightly different from the air conditioner you

purchased. The actual uint shall prevail.

CAUTION ■ Don't mix up the different refrigerants or abuse the tools and measurements which directly contact with refrigerants. Don't adopt refrigerant gas for air vacuuming. ■ If vacuum level could not get to -0.1MPa, please check whether resulted by leakage and confirm the leakage site. If no leakage, please operate the vacuum pump again 1 or 2 hrs. 8.5 Refrigerant amount to be added Calculate the added refrigerant according to the diameter and the length of the liquid side pipe of the outdoor/indoor unit connection. The refrigerant is R410A. Pipe size on Refrigerant to liquid side be Added per met Ф6.35/0.25in 0.015kg/0.033lb Ф9.52/0.375in 0.030kg/0.066lb

The Specification of Power(independence power supply) 1Phase | 1Phase | 1Phase | 1Phase PHASE idoor) FREQUENCY AND VOL 208-240V 208-240V 208-240V 208-240V 208-240 V RCUIT BREAKER/FUSE(A 20/16 20/16 20/16 20/16 1Phase 1Phase 1Phase 1Phase PHASE 1Phase utdoor) FREQUENCY AND VOLT 208-240V 208-240V 208-240V 208-240V 208-240 V 40/25 50/30 60/45 60/50 IRCUIT BREAKER/FUSE(A) 30~36 42~60 42~60

1Phase 1Phase 1Phase PHASE door) FREQUENCY AND VOL 208-240V 208-240V 208-240V IRCUIT BREAKER/FUSE(A 20/16 20/16 20/16 PHASE 3Phase 3Phase 3Phase 3Phase utdoor) FREQUENCY AND VOLT 380-420 V 380-420 V 208-240V 208-240V 25/20 25/20 40/25 45/35 RCUIT BREAKER/FUSE(A The Specification of Power for the invert type air conditioner(independence power supply) ■ Table 14-7 30~36 42~48 PHASE (indoor) FREQUENCY AND VOL 220-240V 220-240V 220-240V CIRCUIT BREAKER/FUSE(/ 15/10 15/10 15/10 1Phase | 1Phase 1Phase 1Phase PHASE 208-240 V 208-240V | 208-240V | 208-240V | 208-240V

CIRCUIT BREAKER/FUSE(A 30/20 40/30 40/35 50/40 ■ Table 14-8 42~60 30~36 PHASE 1Phase indoor) FREQUENCY AND VOL 220-240V 220-240V 220-240V 220-240V 15/10 15/10 CIRCUIT BREAKER/FUSE 3Phase 3Phase 3Phase PHASE utdoor) | FREQUENCY AND VOLT 380-420 V 380-420 V 208-240V 208-240V IRCUIT BREAKER/FUSE(A 30/20 30/25 50/40

The positioning of ceiling hole, indoor unit and hanging screw bolts Dimension and air outlet size Unit: mm Air inlet size Position size of descensional ventilation opening Electric control box Size of mounted hook Electric control box Fig.5-8

If used as MULTI unit, please refer to the Installation & operation manuals packed with outdoor unit.

installation manual Centrifugal fan type outdoor unit MODEL A B C D E F H REMAR 548 | 266 | 300 | 241 | 250 | 540 | *Fig.6-2* 30 | 290 | 315 | 270 | 285 | 590 | *Fig.6-2* | 290 315 270 285 590 *Fig.6-2* 60 | 335 | 360 | 312 | 324 | 695 | *Fig.6-2* | 24 | 366 | 396 | 340 | 345 | 965 | *Fig.6-2* | unit: mm 33 | 355 | 302 | 315 | 860 | *Fig.6* MODEL A B C D E F G H I J 720 750 475 300 430 265 393 740 770 520 336 500 296 443 40 770 520 336 500 296 443 404 | 448 | 368 | 392 | 1369 | *Fig. 6-3* 6.3 Space of installation and maintenance (in=mm/25.4)1. Split type outdoor unit (Wall or obstacle) 2. Vertical discharge type outdoor unit Air inlet d2. Vertical discharge type outdoor unit (Wall or obstacle) Fig.6-5 Table 6-2 92in 554/21.81in 554/21.81in 554/21.81in | 554/21.81in | Refore to 29.88in | 554/21.81in | 554/21.81in | 9/29.88in 710/27.95in 710/27.95in

installation manual 3 Expel the air with a vacuum pump(Refer to Fig.9-3) ■ Be sure to completely insulate all the exposed parts of the flare (Please refer to its manual for the way of using manifold Incomplete insulation may cause condensate. Loosen and remove the nuts of service valves A and B. and connect the charge hose of the manifold valve with 10. CONNECTIVE DIAGRAM the maintenance terminator of service valve A. (Be sure that service valves A and B are both closed) Connect the joint of the charge hose with the vacuum Open the Lo-lever of the manifold valve completely. Turn on the vacuum pump. At the beginning of pumping, loosen the nut of service valve B a little to check whether the air comes in (the sound of the pump changes, and the indicator of compound meter turns below zero). Then fasten the nut. When the pumping has finished, close the Lo-lever of the manifold valve completely and turn off the vacuum pump. When you have pumped for over 15 minutes, please For ensuring throttled efficiency, Please mount the Orifice as confirm that the indicator of multimeter is on -1.0X10<sup>-5</sup>Pa horizontally as possible; and anti-shock rubber should be wrapped at external of the Orifice for denoise. Loosen and remove the nuts of service valves A and B to Mark the data plate with the Orifice installed.(for some models) open service valve A andB completely, then fasten nuts. Please purchase the fittings according to the requirements in the manual strictly. Disassemble the charge hose of service valve A, and Refer the diagram when installing. fasten the nut. NOTE: the orifice should be horizontally installed. Liquid side Indoor Double Outdoor CAUTION Indoor Outdoor Both service valves should be open before test operation. Each air conditioner has two service valves of different sizes.(Refer to Fig.8-4) 11. CONNECT THE DRAIN PIPE Install the drainpipe of the indoor unit Use a polyethylene tube as the drainpipe (out-dia.29-31mm Fig.9-4 /1.14-1.22in, in-dia.25mm/0.984in). It could be bought from Valve stern the local market. 9.2 Check the Leakage When extending drainpipe, tighten the connector with water-proof tape to prevent it leakage. Check all the joints with the leak detector or soap water. (Refer Please lean the drainpipe down toward outdoor (outlet-side) Fig.9-5 as a reference illustration) at a degree of over 1/50 to avoid water flowing back. And please avoid any bulge. Do not drag the drainpipe violently. Meanwhile, one supportpoint should be set every 1~1.5m/3.28~4.92ft to

A.....Lo-stop valve 3.....Hi-stop valve C,D..Joints of the connecting pipe to the indoor unit. prevent the drainpipe from yielding. Or tie the drainpipe with the connecting pipe to fix it. If the outlet of the drainpipe is higher than the body's pump joint, the pipe should be arranged as vertically as possible. And the lift distance must be less than 550mm/21.65in, otherwise the water can not be lifted completely and cause overflow.(Only available for the unit with pump.) Check-point of outdoor unit-• The end of the drainpipe should be over 50mm/1.969in higher than the ground , and do not immerse it in water. If you discharge the water directly into sewage, be sure to make a U-form aquaseal by bending the pipe up to prevent the smelly gas entering the house through the drain pipe. installation manual CAUTION The power supply is included in the power supply above mentioned can be applied to the table. Before obtaining access to terminals, all supply circuits must be disconnected. Wiring figure ■ Fig.14-3 (Available locally) Power wiring (indoor) - Power linking wiring (Outdoor) Indoor Unit Strong elec-signal link wiring Ground wiring Weak elec-signal link wiring

• Ground the air conditioner properly in case to affect its anti-interference function ■ Fig.14-4 Power supply Switch/Fuse (Available locally) Power wiring (outdoor) Power linking wiring (indoor) Indoor Unit Outdoor Strong elec-signal link wiring Ground wiring Weak elec-signal link wiring Ground the air conditioner properly in case to affect its anti-interference function

Outline dimension air outlet opening size air return opening size Size of 200 300 865 800 80 968 40 204 1094 288 45 1240 500 (in=mm/25.4)How to adjust the air inlet direction? (From rear side to under-side.) Take off ventilation panel and flange, cut off the staples at

2. Stick the attached seal sponge as per the indicating place in the following fig, and then change the mounting positions of air return panel and air return flange. Seal sponge/ 4. The installation has finish, upon filter mesh which fixing When install the filter mesh, please plug it into flange inclined from air return opening, and then push up. blocks have been insert to the flange positional holes. All the figures in this manual are for explanation purpose only. They may be slightly different from the air conditioner you purchased. The actual unit shall prevail.

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CONTROL.....

WIRING.....

TEST OPERATION.....

CONNECT THE DRAIN PIPE......

FRESH AIR DUCT INSTALLATION .....

1. SAFETY PRECAUTIONS

cautions carefully.

injury.

the equipment.

the owner's manual for future reference.

Keep this manual where the operator can easily find them.

Read this manual attentively before starting up the units.

■ For safety reason the operator must read the following

■ Installation must be performed in accordance with the

The safty precautions listed here are divided into two categories.

WARNING

CAUTION

After completing the installation, make sure that the unit operates

properly during the start-up operation. Please instruct the customers

on how to operate the unit and keep it maintained. Also, inform

customers that they should store this installation manual along with

WARNING

install, repair or service the equipment

Be sure only trained and qualified service personnel to

Improper installation, repair, and maintenance may result in

electric shocks, short-circuit, leaks, fire or other damage to

If you do not follow these instrutions exactly, the unit may

- - - - - - - - - - - - - -

If you do not follow these instrutions exactly, the unit may

cause minor or moderate property damage, personal

cause property damage, personal injury or loss of life.

(Applicable to the North American area only)

requirement of NEC and CEC by authorized personnel only.

INSTALL THE CONNECTING PIPE...

REFRIGERANT PIPE CONNECTION .

INSPECTING AND HANDLING THE UNIT....

Install according to this installation instructions strictly.

If installation is defective, it will cause water leakage,

When installing the unit in a small room, take measures

against to keep refrigerant concentration from exceeding

allowable safety limits in the event of refrigerant leakage.

Contact the place of purchase for more information.

Excessive refrigerant in a closed ambient can lead to oxygen

Use the attached accessories parts and specified parts

otherwise, it will cause the set to fall, water leakage

Install at a strong and firm location which is able to

If the strength is not enough or installation is not properly

The appliance must be installed 2.3m / 7.5ft above floor.

Before obtaining access to terminals, all supply circuits

The appliance must be positioned so that the plug is

The enclosure of the appliance shall be marked by word,

For electrical work, follow the local national wiring

standard, regulation and this installation instructions. An

If electrical circuit capacity is not enough or defect in

Use the specified cable and connect tightly and clamp

the cable so that no external force will be acted on the

If connection or fixing is not perfect, it will cause heat-up or

Wiring routing must be properly arranged so that control

If control board cover is not fixed perfectly, it will cause

heat-up at connection point of terminal, fire or electrical

If the supply cord is damaged, it must be replaced by the

manufacture or its service agent or a similarly qualified

An all-pole disconnection switch having a contact

separation of at least 3mm/0.118in in all poles should be

When carrying out piping connection, take care not to let

Otherwise, it will cause lower capacity, abnormal high

Do not modify the length of the power supply cord or use

of extension cord, and do not share the single outlet with

Carry out the specified installation work after taking into

pressure in the refrigeration cycle, explosion and injury.

air substances go into refrigeration cycle.

Otherwise, it will cause fire or electrical shock.

account strong winds, typhoons or earthquakes. Improper installation work may result in the equipment falling

independent circuit and single outlet must be used.

electrical work, it will cause electrical shock or fire.

or by symbols, with the direction of the fluid flow.

The appliance shall not be installed in the laundry.

electrical shock and fire.

electrical shock and fire.

must be disconnected.

fire at the connection.

board cover is fixed properly.

person in order to avoid a hazard.

connected in fixed wiring.

other electrical appliances.

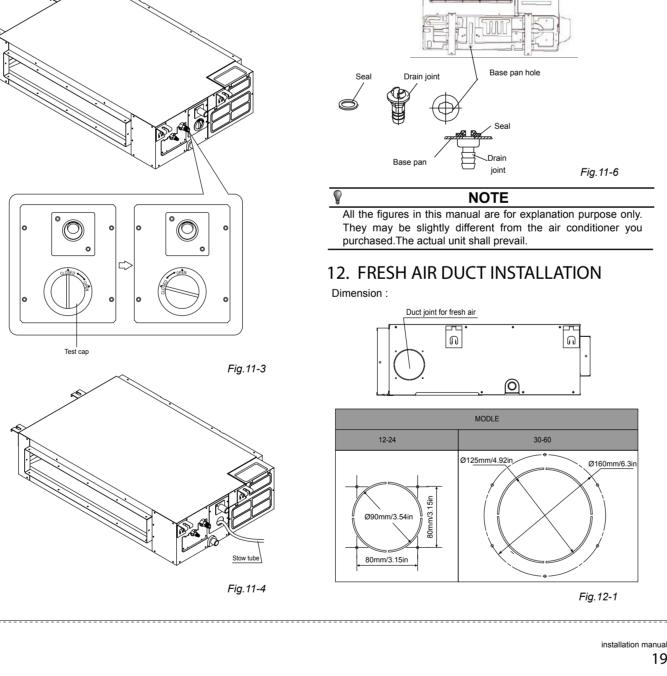
and causing accidents.

withstand the set's weight.

done, the set will drop to cause injury.

All the figures in this manual are for explanation purpose only. They may be slightly different from the air conditioner you purchased. The actual unit shall prevail. 6.4 Available configuration for centrifugal fan type outdoor unit Four different configuration are available for oudoor unit only changing the panels and fan position. Keep in mind that fan unit weight is aprox 30kg/1058oz ,the unit as well as relevant equipment covered with the vinyl cover during installation work. Air inlet modification Centrifugal fan type outdoor unit To change air inlet is only necessary to interchange the a) In case that suspending in the ceiling indicated panels position. Both panels use screws to be fixed to unit chassis. To change air outlet is necessary to interchange panels too. b)In case that installing on the floor Fan outlet panel is attached to fan structure, which must be mounted as follow.

installation manua The drain pipe installation for the unit with pump. Operate the air conditioner in "COOLING" mode. The sound of the drain pump shall be heard. Check whether the water is discharged well (1 min lag is possible, according to the length of the drain pipe), and check whether the water leaks from the Power off the air conditioner and recover the cap. The unit without pump The drain pipe installation for the unit without pump. Drainage test Stow 2000ml water to the water pan through the stow tube, check whether the drainpipe is unhindered. Check whether the drainpipe is unhindered. Install the drain joint of the outdoor unit · New built house should have this test done before paving (For Heat Pump Models) Fit the seal into the drain joint, then insert the drain joint into the The unit with pump. base pan hole of outdoor, rotate 90° to securely assemble them. 1 Remove the test cover, and stow about 2000ml water to the Connect the drain joint with an extension drain hose (Locally purchased)to avoid condensate draining off the outdoor unit water pan. during the heating mode. Fig.11-6 All the figures in this manual are for explanation purpose only. They may be slightly different from the air conditioner you



■ Fig.14-5 Power supply Power supply (Available locally) Power wiring (indoor) Power linking wiring (Outdoor) Outdoor Unit Ground wiring Weak dec-signal link wiring Power supply Indoor Unit Ground wiring (=) \_ \_ \_ \_ \_ \_ Ground the air conditioner properly in case to affect its anti-interference function ■ Fig.14-6 Outdoor

A disconnection device having an air gap contact separation in all active conductors should be incorporated in the fixed wiring according to the National Wiring Regulation. When wiring, please choose the corresponding chart, or it may cause damage. The signs of the indoor terminal block in the some of following fugures may be replaced by L N L1 N1.

• Ground the air conditioner properly in case to affect its anti-interference function

Weak elec-signal link wiring

If the refrigerant leaks during installation, ventilate the The appliance shall be installed in accordance with area immediately. national wiring regulations. Toxic gas may be produced if the refrigerant comes into the place contacting with fire. Do not operate your air conditioner in a wet room such as a bathroom or laundry room. The temperature of refrigerant circuit will be high, please keep the interconnection cable away from the copper An all-pole disconnection device which has at least 3mm clearances in all poles , and have a leakage current that may exceed 10mA, the residual current device (RCD) After completing the installation work, check that the having a rated residual operating current not exceeding refrigerant does not leak. 30mA, and disconnection must be incorporated in the Toxic gas may be produced if the refrigerant leaks into the fixed wiring in accordance with the wiring rules. room and comes into contact with a source of fire, such as a fan heater, stove or cooker.

CAUTION

Do not connect the ground wire to gas or water pipes,

lightning rod or a telephone ground wire.inappropriate

Failure to install an earth leakage breaker may result in

Ground the air conditioner.

electric shocks.

grounding may result in electric shocks.

Be sure to install an earth leakage breaker.

Connect the outdoor unit wires , then connect the indoor You are not allowed to connect the air conditioner with the power supply until the wiring and piping is done. While following the instructions in this installation manual, install drain piping in order to ensure proper INSTALLATION INFORMATION drainage and insulate piping in order to prevent Improper drain piping may result in water leakage and property damage. ■ To install properly, please read this "installation manual" at Install the indoor and outdoor units, power supply wiring and connecting wires should be at least 1 meter away from televisions or radios in order to prevent image interference or noise. ■ When installing the indoor unit or its tubing, please follow Depending on the radio waves, a distance of 1 meter may not this manual as strictly as possible. be sufficient enough to eliminate the noise. If the air conditioner is installed on a metal part of the The appliance is not intended for use by young children building, it must be electrically insulated according to the or infirm persons without supervision. relevant standards to electrical appliances. Don't install the air conditioner in the following circumstance: the power only after a thorough check. There is petrolatum existing. Regret for no further announcement if there is any change There is salty air surrounding (near the coast). of this manual caused by product improvement. ■ There is caustic gas (the sulfide, for example) existing ■ The Volt vibrates violently (in the factories). **INSTALLATION ORDER** Select the location;

In buses or cabinets. In kitchen where it is full of oil gas. Install the indoor unit; ■ There is strong electromagnetic wave existing Install the outdoor unit; There are inflammable materials or gas. Install the connecting pipe ; There is acid or alkaline liquid evaporating. Connect the drain pipe; Other special conditions. Test operation.

5.9 Fan performances Static pressure curve (middle static pressure duc 90 80 70 Super high speed 60 High speed 30 Super high speed Mid speed 20 High speed
Mid speed
Low spee 30 20 Low speed 10 200 300 400 500 600 700 800 900 1000 1100 1200 Air volume(m3/h) Air volume(m<sup>3</sup>/h) 90 80 80 70 Super high speed
60 High speed Super high speed 50 High speed Mid spec 40 Mid speed

H H H LÓW \_\_\_\_\_ 700 800 900 1000 1100 1200 1300 1400 1500 1200 1400 1600 1800 2000 2200 2400 Air volume(m3/h) Air volume(m3/h)

No Description

Outdoor Unit

3) Anchor Bolt M10

Vibration-proof rubber

Drainage (Wide 100/3.94in×Depth 150/5.9in)

) | Mortar Hole (Φ100/3.94in×Depth 150/5.9in)

1338/52 67in | 820/32 28in

338/52.67in 820/32.28in

1338/52.67in 820/32.28in

installation manual 6.5 Moving and installation Since the gravity center of the unit is not at its physical center, so please be careful when lifting it with a sling. Never hold the inlet of the outdoor unit to prevent it from deforming. Do not touch the fan with hands or other objects. Do not lean it more than 45°, and do not lay it sidelong. Make concrete foundation according to the sepecif-ications of the outdoor units.(Refer to Fig.6-15) Fasten the feet of this unit with bolts firmly to prevent it from collapsing in case of earthquake or strong wind. (Refer to

Suspended unit 1. Suspend the unit as the drawing indicates. Concrete Foundation 2. Ensure that ceiling can resist the Outdoor unit weight indicated in specification label plate. 1. Foundation could be on flat and is recommended be 100-300mm /3.94-11.81in higher than ground level. 2.Install a drainage around foundation for smooth drain 3. When installing the outdoor unit fix the unit by anchor bolts of M10 4. When installing the unit on a roof or a veranda, drain water sometimes turns to ice on the cold weather. Therefore, avoid draining in an area that people often use because it is slippery.

installation manual

Suspension Bracke NOTE: Make sure 3-4 degree of angel is kept between the unit and the floor when the unit is installed in the low temperauture Make sure the ice on the chassis of the outdoor unit can be dealt with when the unit is installed in the low temperature and humid enviroment The outdoor unit should be installed in mounting rack 30cm The machine must be installed indoor.

/11.81in high.The enviroment temperature should be above 12.1Motor and drain pump maintenance (Take rear ventilated as example) **Motor maintain:** 1. Take off the ventilated panel. Take off the blower housing. Take off the motor. 14. WIRING The appliance shall be installed in accordance with national wiring regulations. The air conditioner should use separate power supply with rated voltage. The external power supply to the air conditioner should be grounded, which is linked to the ground wiring of the indoor and outdoor unit. The wiring work should be done by qualified persons Pump maintainance: according to wiring diagram. Screw off four screws from drain pump. 2. Plug off pump power supply and water level switch cable. according to the national rule. Take off pump.

A circuit breaker and a residual current device (RCD) with above 10mA rating shall be installed in the power circuit Be sure to locate the power wiring and the signal wring well to avoid cross-disturbance. Do not turn on the power until you have confirmed proper wiring. The power cord type is H07RN-F. NOTE Refer to EMC Directive 2004/108/EC To prevent flicker impressions during the start of the 13. CONTROL(ONLY FOR INVERTER UNITS compressor, following installation conditions do apply. • The capacity of the system and the network address of The power connection for the air conditioner has to be the air-conditioner can be set by the switches on the to be of a low impedance, normally the required indoor Main Control Board. impedance reaches at a 32 A fusing point. Before setting, turn off the power. After setting, restart 2 No other equipment has to be connected with this power · Setting is not allowed when the unit is power on. 3 For detailed installation acceptance please refer to your power supplier, if restrictions do apply for products like 13.1 Horsepower code setting washing machines, air conditioners or electrical ovens. The capacity of the indoor unit has been set in the 4 For power details of the air conditioner refer to the rating factory according to the below table. Horsepower code 5 For any question contact your local dealer. POWER\_S 14.1 Connect the cable Disassemble the cover.(If there isn't a cover on the outdoor unit, disassemble the screw from the maintenance board, and pull it in the direction of the arrow to remove the protection board.) (Refer to Fig.14-1) Connect the cables to the terminals correspondingly. Re-install the cover or the protection board. 14.2 The Specification of Power (Refer to Table14-1~14-8) **14.3 Wiring figure** (*Refer to Fig.14-2~Fig.14-5*) 1.split type outdoor unit

actory , anyone 13.2 Network address set Every air-conditioner in network has only one network address to distinguish each other. Address code of air-conditioner in LAN is set by code switches S1 & S2 on the Main Control Board of the indoor unit, and the set range is 0-63. Protection board installation manual QST2I-013AEN

The design and specifications are subject to change without prior notice for product

improvement. Consult with the sales agency or manufacturer for details

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3. ATTACHED FITTINGS Please check whether the following fittings are of full scope. If there are some spare fittings , please restore them carefully.

Table 3-1

SHAPE Soundproof / insulation sheath Binding tape Tubing & Fittings 3.Seal sponge n some models Drain joint (for cooling & heating Seal ring Remote controller on some models) Remote controller & Its Fram (Match with remote controller ) 9.Mounting screw(ST2.9×10-C-H) & Million O.Alkaline dry batteries (AM4) Remote controller manual \_\_\_\_ Vire controller & Its Frame . Wire controller (Match with wire controller . Magnetic ring EMC & Its Fitting (twist the electirc wires L and N (for some models) around the magnetic ring to five I. Owner's manual 5. Installation manual δ .Transfer connector(Φ12.7-Φ15.9)/ ( Ф0.5in-Ф0.63in ) (Packed with the indoor unit) (NOTE: Pipe size differ from appliance to appliance. To meet different pipe size requirement, sometimes the pipe connections need the transfer connector install on the outdoor unit .) Others 7 .Transfer connector(Φ6.35-Φ9.52)/ (Ф0.25in-Ф0.375in ) (Packed with the indoor unit ) (NOTE: Pipe size differ from appliance to appliance. To meet different pipe size requirement, sometimes the pipe connections need the transfer connector to install on the outdoor unit .) 18 .Transfer connector(Φ9.52-Φ12.7)/ (Ф0.375in-Ф0.5in) (Packed with the indoor unit.used for multi-type models only ) (NOTE: Pipe size differ from appliance to appliance. To meet different pipe size requirement, sometimes the pipe connections need the transfer connector o install on the outdoor unit .) . Connecting wire for display (2M) . Cord protection rubber ring

Super high speed

1100 1200 1400 1600 1800 2000 2200 2400

Pa 120

110

100

80 Super high sr

60 Mid speed
Low spee

40 30

1000 1300 1600 1900 2200 2500 2800 310

Air volume(m3/h)

10

7. INSTALL THE CONNECTING PIPE

Before installation make sure the height difference, the length

36K 30/98.42ft 20/65.6

42K 50/164.04ft 30/98.42

0.290kg/m×(L-5) 0.290kg/m×(L-5

The outdoor unit is charged with rating refrigerant amount in

the factory. Additional charge refers to the table below:

of refrigerant pipe, and the number of the bends between the

indoor unit and outdoor unit meet the following requirements:

7.1 Preparation and Caution

Split type air conditione

R410A inverter Split type air

R410A Split type air conditione

(outdoor unit down)

(outdoor unit up)

liquid tube(mm)

orifice in the indoor

orifice in the outdoorunit

orifice in the indoorunit

orifice in the outdoorunit

orifice in the indoorunit

orifice in the outdooruni

orifice in the indoorun

orifice in the outdoorunit

2.Centrifugal fan outdoor unit

15. TEST OPERATION

NOTE:the table above refer to the liquid tube.

NOTE: The number of bends is up to the length of the max

All the figures in this manual are for explanation purpose only

purchased(depend on model). The actual unit shall prevail.

1 The test operation must be carried out after the entire

Please confirm the following points before the test operation:

The length of the tubing and additional charge amount

The power voltage matches rated voltage of the air

There is no obstacle at the outlet and inlet of the outdoor

The gas-side and liquid-side service valves are both

The air conditioner is pre-heated by turning on the power.

controller, and check the following points. If there is any

malfunction, please resolve it according to the chapter

a. Whether the buttons on the remote controller works

c. Whether the room temperature is adjusted suitable.

e. Whether the temporary switch on the unit works well.

g. Whether there is abnormal vibration or noise during

h. Whether the air conditioner works well in heating

a. Whether there is abnormal vibration and noise during

b. Whether the exhaust air, noise, or condensate influence

c. Whether there is any refrigerant leakage during

CAUTION

3 minutes delay is normal when restarting the unit for

Set the air conditioner in cooling mode with the remote

b. Whether the air flow louver moves normally.

d. Whether the indicator lights normally.

f. Whether the drainage is normal.

mode(heat pump model).

2) The outdoor unit

operation.

compressor protection.

"Troubleshooting" in the "Owner's Manual".

The indoor unit and outdoor unit are installed properly.

Tubing and wiring are correctly completed.

The ground wiring is connected correctly.

The drainage is unimpeded.

have been recorded.

conditioner.

Test operation

1) The indoor unit

and indoor units.

completely open.

The heating insulation works well.

The refrigerant pipe system is leakage-checked.

They may be slightly different from the air conditioner you

height drop. Usually for each 10m/32.8ft need a bend.

and Centrifugal fan outdoo

70 Super high s

Air volume(m<sup>3</sup>/h)

(on some models) (on some models) (on some models) (on some models) on some models)

36K(small model)

900 1000 1100 1200 1300 1400 1500 1600 1700 1800

120

110

90 80 Super high speed

Super high speed

To High speed

High speed

50 Mid speed

40 Low spec 

30 20

10

Air volume(m<sup>3</sup>/h)

CAUTION

relevant local and national codes.

system during installation.

All field piping must be provided by a licensed

Prevent let air, dust, or other impurities enter in the pipe

Insulation pipe shall be used to the gas piping and the

liquid piping. Otherwise, the condensate may happen.

Measure the required length of the connecting

min-radius 100mm/3.94in Fia.7-1

7.2 The Procedure of Connecting Pipes

Connect the indoor unit first, then the outdoor unit.

Bend the tubing in proper way. Do not twist the pipe.

Put some refrigerant oil on the surfaces of the flare pipe

and the joint nuts then wrench it for 3~4 rounds with

Be sure to use two wrenches simultaneously when you

■ The service valves of the outdoor unit should be completely

closed(as original status). Every time to connect first to loosen

nuts, then connect the flare pipes within 5 minutes. If the nuts

have been loosened for a long time, dusts and other impurities may enter the pipe system and may cause malfunction.So

please expel the air out of the pipe with refrigerant before

Expel the air(refer to the "8.1")after connecting the refrigerant

• Cut out a proper concave at the bending part of the

Then expose the pipe(cover it with tapes after bending).

NOTE

Bending position is preferably in the middle of the bendable pipe.

Be sure to use the same insulating materials when you buy the brass pipe. (More than 9mm/0.35in thick)

installation manua

To prevent twist of deforming, please bend the pipe at a

pipe with the indoor unit and the outdoor unit.

Bend the connecting pipe of small wall thickness.

Then fasten the nuts at the service valves.

The bending angle should not exceed 90.

Do not bend the pipe more than three times.

insulating pipe.

proper radius.

Make the ends straight

connect or disconnect the pipes

hands before fasten the flare nuts.(Refer to chart 16)

Bend the pipe with thumb

pipe, then make it by the following way.

refrigeration technician and must comply with the

1000 1300 1600 1900 2200 2500 2800 3100 3400

Low spec

000

Air volume(m<sup>3</sup>/h)

80

• There is enough room for installation and maintenance. The ceiling is horizontal, and its structure can endure the weight of the indoor unit. The outlet and the inlet are not impeded, and the influence of external air is the least. The air flow can reach throughout the room. The connecting pipe and drainpipe could be extracted out There is no direct radiation from heaters. Maintenance roomage 300mm/11.811in or more 200mm/7.874in or more checking orifice

4. INSPECTING AND HANDLING THE UNIT

At delivery, the package should be checked and any damage should

2 Choose on before hand the path along which the unit is to be

4 When lifting the unit, always use protectors to prevent belt

The indoor unit should be installed in a location that meets

Keep the unit upright in order to avoid compressor

be reported immediately to the service agent.

1 Fragile, handle the unit with care.

When handling the unit, take into account the following:

3 Move this unit as originally package as possible.

5. INDOOR UNIT INSTALLATION

5.1 Installation place

the following requirements:

5.2.1 Wooden construction Put the square timber traversely over the roof beam, then install the hanging screw bolts. (Refer to Fig.5-2)

CAUTION

Keep indoor unit outdoor unit power supply wiring and

transmission wiring at least 1 meter away from televisions

and radios. This is to prevent image interference and

noise in those electrical appliances. (Noise may be

generated depending on the conditions under which the

electric wave is generated, even if 1 meter is kept.)

1 Installing Ø10/Ø0.394in hanging screw bolts. (4 bolts)

Consult the construction personnels for the specific procedures.

Carry out the pipe and line operation in the ceiling after finishing

Do keep the ceiling flat. Consolidate the roof beam to avoid

the installation of the main body. While choosing where to start

the operation, determine the direction of the pipes to be drawn

out. Especially in case there is a ceiling, position the refrigerant

• Strengthen the place that has been cut off, and consolida-

ant pipes, drain pipes, indoor & outdoor wires to the connection

NOTE

Confirm the minimum drain tilt is 1/100 or more

After the selection of installation location, position the refriger-

pipes, drain pipes,indoor & outdoor lines to the connection

■ Please refer to the following figures for positioning 4 screw

5.2 Install the main body

/ Ø0.394in hanging screw bolts.

places before hanging up the machine.

places before hanging up the machine.

The installation of hanging screw bolts.

The installation of hanging screw bolts.

Cut off the roof beam.

tethe roof beam.

possible vibration.

damage and pay attention to the position of the unit's centre 

Evaluate the ceiling construction and please install with Ø10

Pa Pa 90 Super high speed 80 1 Super high speed Research 60 High speed High speed 60 50 High speed 40 40 Mid speed
30 Low speed 30 Mid.speed
20 Low speed 20 10 10 700 800 900 1000 1100 1200 1300 1400 1500 700 800 900 1000 1100 1200 1300 1400 1500 1600 Air volume(m3/h) Air volume(m3/h) Pa 100 180 Super high speed 80 Super high speed 140 120 High speed 60 High speed
50 80 Mid speed 40 Mid speed 30 Low speed 40 20 600 800 1000 1200 1400 1600 1800 2000 2200 2400 600 800 1000 1200 1400 1600 1800 2000 2200 2400 Air volume(m3/h) Air volume(m3/h) 80 Super 160 Super high speed

Pa Super high speed 140 140 High speed 140
120
High speed
100
80
Mid speed
60
Low speed 00 Nid speed

Mid speed

Low speed 40 20 800 1000 1600 2000 2200 2400 2600 2800 3000 3200 3400 3600 800 1000 1600 2000 2200 2400 2600 2800 3000 3200 3400 3600 Note: All used branch pipe must be produced by Midea,

Size of main pipe(mm)

8.3 Size of joint pipes for outdoor unit

outdoor unit connective pipes. In case of the main

Table.8-3 Size of joint pipes for 410A outdoor unit

the size of main pipe(mm)

for the selection.

Base on the following tables, select the diameters of the

accessory pipe large than the main pipe, take the large one

Gas side Liquid side The 1st branchin

Ф15.9/0.626in | Ф9.5/0.375in | СЕ-FQZHN-01С

915.9/0.626in Ф9.5/0.375in СЕ-FQZHN-01С

915.9/0.626in Ф9.5/0.375in CE-FQZHN-010

as side Liquid side Available

Ф12.7/0.5in Ф6.35/0.25in СЕ-FQZHN-01С

15.9/0.626in Ф9.5/0.375in СЕ-FQZHN-01С

15.9/0.626in Ф9.5/0.375in СЕ-FQZHN-01С

2. Place The Pipe otherweise it causes malfunction. The indoor units should ■ Drill a hole in the wall (suitable just for the size of the wall be installed equivalently at the both side of the U type branch sleeve), then set on the fittings such as the wall sleeve and its ■ Bind the connecting pipe and the cables together tightly with 8.2 Size of joint pipes for indoor unit Pass the bound connecting pipe through the wall sleeve from outside. Make sure of the pipe allocation not to damage the copper tubes. 3 Connect the pipes. 4 Expel the air with a vacuum pump or refrigerant. 5 Open the service valves of the outdoor unit . 6 Check the refrigerant leakage. Check all the joints with the leak detector or soap water.

7 Cover the joints of the connecting pipe with the

installation manual

insulation foam, and bind them well with the tapes to prevent potential leakage. REFRIGERANT PIPE(the unit with th twins function) 8.1 Length and drop height permitted of the refrigerant piping Note: Reduced length of the branching tube is the 0.5m/1.64ft of the equivalent length of the pipe.

Permitted value Piping (+18K 30m/98.42ft 50m/164.04ft 15m/49.21ft 10m/32.8ft

20m/65.8ft 0.5m/1.64ft Indoor unit

installation manual The Specification of Power(indoor power supply) ■ Table 14-1 30~36 1Phase 1Phase 1Phase 1Phase 1Phase PHASE FREQUENCY AND VOLT 208-240V | 208-240V | 208-240V | 208-240V | 208-240V CIRCUIT BREAKER/FUSE(A) 40/25 50/30 60/45 60/50

■ Table 14-2 3Phase 3Phase 3Phase FREQUENCY AND VO 380-420 V 380-420 V 208-240V 208-240V 25/20 40/25 The Specification of Power(outdoor power supply) ■ Table 14-3 30~36 PHASE 1Phase 1Phase 208-240V

208-240V | 208-240V | 208-240V | 208-240V IRCUIT BREAKER/FUSI 40/30 60/40 70/55 ■ Table 14-4 42~60 PHASE 3Phase 3Phase 3Phase 3Phase FREQUENCY AND VOI 380-420 V 208-240V 208-240V 380-420 V 25/20 25/20 40/25 45/35

installation manual

Ground wiring